

REMARKS

Upon entry of the present amendment, claims 2, 3, 5, 6 and 8 will have been amended.

Applicant submits new claims 9-11 for the consideration by the examiner.

In view of the herein contained amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the outstanding objections and rejection set forth in the above-mentioned Official Action. Such action is now believed to be appropriate and proper and is thus respectfully requested, in due course.

Initially, Applicant would like to thank the Examiner for acknowledging Applicant's claim for foreign priority under 35 U.S.C. §119, as well as for confirming receipt of a copy of certified copy of the document upon which the claim for foreign priority is based, from the International Bureau. Applicant would also like to thank the Examiner for acknowledging consideration of the documents listed on the Form PTO-1449 submitted with the Information Disclosure Statement filed on November 3, 2006.

In the outstanding Official Action, the Examiner objected to the drawings, because of minor errors in Figures 3 and 9. The Examiner also objected to the specification, because of minor informalities.

By the present response, Applicant has submitted herewith two replacement sheets of drawing, including Figure 3 and 9, in which the errors indicated by the Examiner have been corrected. Applicant has also amended the specification to eliminate the informalities indicated by the Examiner. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the outstanding objections to the drawings and specification.

In the outstanding Official Action, the Examiner rejected 2, 3, 5, 6 and 8 under 35 U.S.C. §102(b) as being anticipated by Kikuchi Seiji (JP Publication No. 2001-244088), which was cited to the Examiner's attention in the above-noted Information Disclosure Statement.

Applicant respectfully traverses the above noted rejection and submit that it is inappropriate with respect to the combinations of features recited in each of Applicant's claims.

Applicant's invention as recited in claim 2 is directed to a high pressure discharge lamp lighting device, including a lamp current former that forms a lamp current having a waveform in which one cycle of a standard period current with a polarity inversion of a predetermined standard period and one cycle of a short period current with a polarity inversion of a period shorter than the predetermined standard period appear alternately, and in which a duty ratio before the polarity inversion for at least one of the standard period current and the short period current is different than a duty ratio after the polarity inversion. The lamp current former has a current controller that sets at least one of a current value before the polarity inversion of the short period current and a current value after the polarity inversion of the short period current to be higher than a current value of the standard period current.

Kikuchi Seiji discloses a high pressure discharge lamp lighting device that forms the shape of current wave having the following characteristics. (1) The basic shape is that one cycle of the short period current (high frequency rectangular current) appears per a half cycle of the standard period current (low frequency rectangular current); (2) duty ratios before and after a polarity inversion for both the standard period current and the short period current are the same, i.e., are fixed to 1:1.

These are rather distinct from and clearly contradict the recited features of the present invention, in which the current wave is produced such that one cycle of the short period current

appears per one cycle of standard period current, and the duty ratios before and after a polarity inversion for the standard period current or a polarity inversion for the short period current are different than each other.

The Examiner asserted that Kikuchi Seiji discloses control of a duty ratio. However, Kikuchi Seiji only discloses that a duty ratio of a chopper signal, which is supplied from the PWM control circuit 9 to the chopper circuit 2, is controllable, to control the current value of a lamp current. In this regard, control of the duty ratio of the chopper signal to control a current value is a known technology, and in fact, Applicant's application also describes that the lighting device controls the duty ratio of the chopper signal to control a current value (see paragraph [0039]). Control of the duty ratio of the chopper signal is conceptually totally different from control of the duty ratio of the standard period current or the short period current. Thus, as mentioned above, Kikuchi Seiji does not teach that the lamp current former controls the lamp current such that the duty ratios before and after polarity inversion for at least one of the standard period current and the short period current are different.

Accordingly, Kikuchi Seiji does not disclose the combination of features recited at least in Applicant's claim 2.

Applicant's invention as recited in claim 8 is directed to a method of lighting up a high pressure discharge lamp that includes many of the features similar to claim 2 that are not disclosed by Kikuchi Seiji, but is in the method form.

With respect to the Examiner's rejection of dependent claims 3, 5 and 6, Applicant submits that these claims are all dependent from independent claim 2, which is allowable for at least the reasons discussed above. Thus, these dependent claims are submitted to also be

allowable for at least the reasons discussed above, as well as based upon their own additional recitations.

In particular, the Examiner asserted that Figs. 6-9 of Kikuchi Seiji show the combinations of features of claim 3 of the present invention. However, Applicant submits that at least the feature of the "ramp wave" as recited in claim 3 is not shown in Figs. 6-9 or in any other figures thereof, or in the description of Kikuchi Seiji. Accordingly, Applicant respectfully requests that the Examiner more specifically point out where in Kikuchi Seiji the ramp wave is disclosed, if the Examiner maintains his rejection of claim 3.

Applicant has, by the present response, submitted new claims 9-11, depending upon claim 8, which recite features described in the original specification and which are not disclosed in the cited references. Thus, the new claims are submitted to also be allowable for at least the reasons discussed above, and further based upon the specific additional features recited therein, in the claimed combinations.

Accordingly, in view of the herein contained amendments and remarks, Applicant submits that he has now overcome the outstanding objections and rejection asserted in the outstanding Office Action in the present application and respectfully requests an indication to such effect, in due course.

SUMMARY AND CONCLUSION

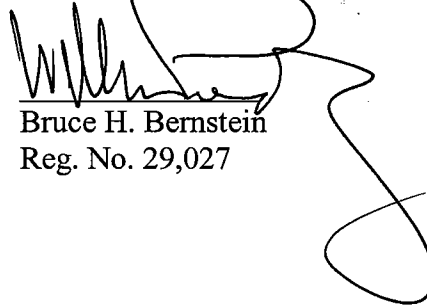
Applicant has made a sincere effort to place the present application into condition for allowance and believe that he has now done so. Applicant has amended the claims to eliminate possibly indefinite terminologies and to clarify the features of the present invention, but not to narrow the scope of the same. Further, the amendments have not been made in view of the prior art. Thus, no prosecution history estoppel should attach to these amendments. Applicant has also submitted several new claims.

Applicant has discussed the disclosure of the reference cited by the Examiner against the claims of the present application and with respect to such a disclosure has noted the significant and substantial shortcomings thereof. Applicant has additionally discussed the explicit recitations of Applicant's claims and with respect to such recitations has noted the deficiencies of the disclosure of the reference applied thereagainst. Accordingly, Applicant has provided clear and convincing bases for the patentability of all the claims in the present application and respectfully requests an indication to such effect, in due course.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should the Examiner have any questions or comments regarding this Response, or the present application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully Submitted,
Seiji KIKUCHI

A handwritten signature in black ink, appearing to read "William Pieprz", is written over the printed name of Bruce H. Bernstein.

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